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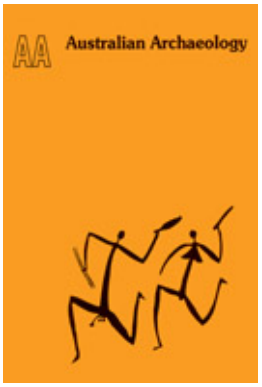

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FURTHER RADIOCARBON DATES FROM CAVE BAY CAVE, HUNTER ISLAND, NORTH-WEST TASMANIA

Man's presence in Tasmania during the Pleistocene was recently demonstrated by a radiocarbon date of 18,550 ± 600 BP (ANU-1361) from Cave Bay Cave, Hunter Island (Bowdler 1974a, b). Further excavation was carried out at this site during January and February of this year, and more radiocarbon dates are to hand. The archaeological sequence suggested before has been considerably clarified, and the new dates extend the antiquity of man in the region by some 4,000 years.

The site is large and, of a series of trenches, that located nearest the centre of the cave (Trench V) most clearly exhibits the salient features of its history. This cutting was 2 m x 2 m in area, and was excavated to a depth of a little over 2 m. Pleistocene layers were again recognised by non-island faunal remains, characterising the 'Hunter Hill on Bass Plain' period of lowered sea level (Bowdler 1974a:7-8). The topmost Pleistocene layer so defined was encountered approximately 65 cms below the surface in Trench V. Between 145 and 185 cms were a series of well-defined hearthy layers, rich in macropod bones, quartz flakes and charcoal. In no other trench was such intensive evidence of Pleistocene occupation discovered. The lowest of these layers (c.175-185 cms) was stratigraphically the oldest evidence found for man's presence in the site. Associated charcoal has yielded a date of 22,750 ± 420 BP (ANU-1498). A preliminary date of about 20,800 BP has been received for the uppermost hearthy layer in this complex (c.145-150 cms). Above this (120 cms - 145 cms) there is sporadic evidence of human occupation, associated with what appears to be a period of particularly heavy roof-fall. Between 65 and 120 cms there is virtually no sign of the presence of man, with the exception of a small, well-defined hearth 85 cms below the surface. A preliminary date for this hearth suggests it is about 15,500 years old.

Various aspects of the Pleistocene history of the site are currently being explored, but the following climatic correlations may be tentatively inferred. It appears that the most intensive use of the site by Pleistocene man spanned about 2000 years, just before the last pleniglacial. There is no reason why this should represent man's first penetration of the Tasmanian peninsula; Tasmania may well have been initially colonised under a climatic régime less severe than has been previously suggested (Jones 1968:200). The subsequent period of intense roof-fall and sporadic use of the site may coincide with the last glacial maximum of c.18,000 BP The date previously reported (from Trench II) may be recalled, associated as it was with a single bone artefact and two pieces of flaked quartz (Bowdler 1974b). The isolated hearth dated to about 15,500 BP represents a period well before the retreat of the Tasmanian glaciers (Macphail & Peterson 1975). Hence it appears that Cave Bay Cave was largely unoccupied during a period of possible climatic amelioration. This is not necessarily to imply that the cave was a cosy retreat from harsh weather. One possible line of enquiry might look to vegetational changes, particularly if the

lower occupational levels are interpreted as representing a hunting camp rather than a base camp. It is hoped that analysis of pollen samples being undertaken by Dr Geoffrey Hope will shed further light here.

The top 65 cms of deposit reflect further episodes of use and disuse of the site by man, but perhaps more easily interpreted. Between 50 and 65 cms below the surface is a layer of rich shell midden, discretely stratified above the topmost culturally sterile Pleistocene layer. Charcoal from the bottom 5 cms of this midden has been dated to 7180 ± 90 BP (ANU-1552). The orange-brown layer of Trench I which contained four bone artefacts may be correlated with this midden layer (Bowdler 1974a:6). A preliminary date of the order of 4000 BP has been obtained from a small hearth a couple of centimetres above the top of the midden proper. Above this are at least 25 cms of culturally sterile sandy deposit; and above this again about 25 cms of hearths and lenses of shell midden.

The dating of the bottom of the midden coincides well with recent geomorphological evidence for the sea reaching its present level in Australia (Thom & Chappell 1975:91). Comparison may also be made with the lowest levels of Rocky Cape South (Jones 1968:200). At this point Cave Bay Cave became a coastal site in terms of both its environmental setting and of human usage. I suggest that at this time Hunter Island had yet to come into existence; rather we may think of Hunter Peninsula. Jennings (1959:63) has suggested that the deep channels around Hunter Island could be the result of post-glacial tidal scouring. If so, there may have been an interval between the sea approximating its present level and the final creation of Hunter Island *qua* island. Perhaps, as Lampert has suggested for Kangaroo Island (1972:223), there was a gradual erosion of the land link and a gradual retreat by man to the Tasmanian main, finally abandoning the incipient island shortly after 4000 BP. Abandoning it, that is, for a couple of thousand years.

If the sterile layer (which was found in all trenches) represents a period of non-occupation, then the top 30 cms or so of hearths and midden represent the maritime discovery of Hunter *Island*, and its subsequent, probably seasonal, exploitation, as I have suggested before (Bowdler 1974a:8). A carbon date of 2580 ± 70 BP (ANU-1362) from an equivalent layer in Trench II suggests a date for this triumph of Tasmanian navigation; confirmation from Trench V is awaited.

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